

Gunter, Jason

From: Nations, Mark <mnations@doerun.com>
Sent: Tuesday, February 11, 2014 9:16 AM
To: Gunter, Jason
Cc: Yingling, Mark; Wohl, Matthew; 'Kevin Lombardozi' (kevinl@VALHI.NET); Norman Lucas (cityhall@i1.net); robert.hinkson@dnr.mo.gov; brandon.wiles@dnr.mo.gov; Ty Morris (TMorris@barr.com); Sanders, Amy B.; Cummings, Mark
Subject: National January 2014 Progress Report
Attachments: NATL_01-14[1].doc; 2014-01-23 NAT UAO Pace Lab Report.pdf; 2014-01-28 NAT UAO Pace Lab Report.pdf
Categories: Red Category

Jason,
Attached is the January report. Let me know if you have questions.
Mark

07CR

40482399

4.2



Superfund

duo2

**THE
DOE RUN
COMPANY**

Remediation Group

Mark Nations
Mining Properties Manager
mnations@doerun.com

February 10, 2014

Mr. Jason Gunter
Remedial Project Manager
U.S. Environmental Protection Agency
Region 7 - Superfund Branch
11201 Renner Blvd.
Lenexa, KS 66219

Re: National Mine Tailings Site Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 51 of the Unilateral Administrative Order (Docket No.CERCLA-07-2006-0231) for the referenced project and on behalf of The Doe Run Company and NL Industries, Inc., the progress report for the period January 1, 2014 through January 31, 2014 is enclosed. If you have any questions or comments, please call me 573-518-0800.

Sincerely,



Mark Nations
Mining Properties Manager

Enclosure

c: Mark Yingling – TDRC (electronic only)
Matt Wohl – TDRC (electronic only)
Kevin Lombardozi – NL Industries, Inc.
Matt Whitwell – City of Park Hills
Norm Lucas – Park Hills – Leadington Chamber of Commerce
Robert Hinkson – MDNR
Brandon Wiles – MDNR
Ty Morris – Barr Engineering

National Mine Tailings Site
Park Hills, Missouri
Removal Action - Monthly Progress Report
Period: January 1, 2014 – January 31, 2014

1. Actions Performed and Problems Encountered This Period:

- a. Work continued on the development of the Removal Action Report.

2. Analytical Data and Results Received This Period:

- a. During this period, water samples were collected at the sampling locations identified in Appendix C of the Removal Action Work Plan where water was present. Copies of the analytical results from the last sampling event are included with this progress report.

3. Developments Anticipated and Work Scheduled for Next Period:

- a. Continue developing the Removal Action Report.
- b. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- c. Complete air monitoring activities as described in the Removal Action Work Plan.

4. Changes in Personnel:

- a. None.

5. Issues or Problems Arising This Period:

- a. None.

6. Resolution of Issues or Problems Arising This Period:

- a. None.

January 31, 2014

Amy Sanders
The Doe Run Company
P. O. Box 500
Viburnum, MO 65566

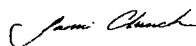
RE: Project: NATIONAL (MONTHLY)
Pace Project No.: 60161839

Dear Amy Sanders:

Enclosed are the analytical results for sample(s) received by the laboratory on January 24, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-13-4

Utah Certification #: KS000212013-3

Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60161839001	NAT EAST	Water	01/23/14 11:32	01/24/14 08:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60161839001	NAT EAST	EPA 200.7	NDJ	6	PASI-K
		EPA 200.7	NDJ	3	PASI-K
		SM 2540C	JMC	1	PASI-K
		SM 2540D	JMC	1	PASI-K
		SM 2540F	JMC1	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	OL	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

Sample: NAT EAST		Lab ID: 60161839001		Collected: 01/23/14 11:32		Received: 01/24/14 08:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Cadmium	ND	ug/L	5.0	2.5	1	01/28/14 17:00	01/29/14 12:08	7440-43-9	
Calcium	104000	ug/L	100	10.4	1	01/28/14 17:00	01/29/14 12:08	7440-70-2	
Lead	7.3	ug/L	5.0	2.4	1	01/28/14 17:00	01/29/14 12:08	7439-92-1	
Magnesium	57200	ug/L	50.0	6.5	1	01/28/14 17:00	01/29/14 12:08	7439-95-4	
Total Hardness by 2340B	496000	ug/L	500		1	01/28/14 17:00	01/29/14 12:08		
Zinc	159	ug/L	50.0	3.3	1	01/28/14 17:00	01/29/14 12:08	7440-66-6	
200.7 Metals, Dissolved (LF)		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Cadmium, Dissolved	ND	ug/L	5.0	2.5	1	01/28/14 17:00	01/29/14 13:21	7440-43-9	
Lead, Dissolved	4.1J	ug/L	5.0	2.4	1	01/28/14 17:00	01/29/14 13:21	7439-92-1	
Zinc, Dissolved	131	ug/L	50.0	3.3	1	01/28/14 17:00	01/29/14 13:21	7440-66-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	615	mg/L	5.0	5.0	1		01/30/14 07:44		
2540D Total Suspended Solids		Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	5.0	1		01/28/14 16:10		
2540F Total Settleable Solids		Analytical Method: SM 2540F							
Total Settleable Solids	ND	mL/L/hr	0.20	0.20	1		01/24/14 10:30		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	8.2	Std. Units	0.10	0.10	1		01/27/14 12:49		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	233	mg/L	20.0	1.1	20		01/29/14 12:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

QC Batch:	MPRP/26007	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
Associated Lab Samples:	60161839001		

METHOD BLANK: 1322792

Matrix: Water

Associated Lab Samples: 60161839001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	ug/L	ND	5.0	01/29/14 12:01	
Calcium	ug/L	ND	100	01/29/14 12:01	
Lead	ug/L	ND	5.0	01/29/14 12:01	
Magnesium	ug/L	ND	50.0	01/29/14 12:01	
Total Hardness by 2340B	ug/L	ND	500	01/29/14 12:01	
Zinc	ug/L	ND	50.0	01/29/14 12:01	

LABORATORY CONTROL SAMPLE: 1322793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	992	99	85-115	
Calcium	ug/L	10000	9800	98	85-115	
Lead	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Total Hardness by 2340B	ug/L		66400			
Zinc	ug/L	1000	996	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1322794 1322795

Parameter	Units	60161839001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Calcium	ug/L	104000	10000	10000	112000	113000	81	84	70-130	0	9	
Lead	ug/L	7.3	1000	1000	991	989	98	98	70-130	0	10	
Magnesium	ug/L	57200	10000	10000	66300	66600	91	94	70-130	1	9	
Total Hardness by 2340B	ug/L	496000			554000	556000				0		
Zinc	ug/L	159	1000	1000	1140	1130	98	97	70-130	1	11	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1322796 1322797

Parameter	Units	60161892001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	ND	1000	1000	1060	1060	106	106	70-130	0	10	
Calcium	ug/L	54.6 mg/L	10000	10000	63500	63600	90	90	70-130	0	9	
Lead	ug/L	ND	1000	1000	950	951	95	95	70-130	0	10	
Magnesium	ug/L	399 mg/L	10000	10000	404000	403000	53	43	70-130	0	9 M1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1322796 1322797											
Parameter	Units	60161892001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Total Hardness by 2340B	ug/L	1780 mg/L			1820000	1820000				0	
Zinc	ug/L	ND	1000	1000	979	976	98	98	70-130	0 11	

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)
Pace Project No.: 60161839

QC Batch:	MPRP/26023	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Dissolved
Associated Lab Samples:	60161839001		

METHOD BLANK: 1323393 Matrix: Water
Associated Lab Samples: 60161839001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium, Dissolved	ug/L	ND	5.0	01/29/14 13:14	
Lead, Dissolved	ug/L	ND	5.0	01/29/14 13:14	
Zinc, Dissolved	ug/L	ND	50.0	01/29/14 13:14	

LABORATORY CONTROL SAMPLE: 1323394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium, Dissolved	ug/L	1000	1040	104	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1323395 1323396

Parameter	Units	60161839001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium, Dissolved	ug/L	ND	1000	1000	1040	1050	104	105	70-130	1	10	
Lead, Dissolved	ug/L	4.1J	1000	1000	1030	1030	102	102	70-130	0	10	
Zinc, Dissolved	ug/L	131	1000	1000	1130	1140	100	100	70-130	1	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)
Pace Project No.: 60161839

QC Batch:	WET/45867	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60161839001		

METHOD BLANK: 1324013 Matrix: Water
Associated Lab Samples: 60161839001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	01/30/14 07:39	

LABORATORY CONTROL SAMPLE: 1324014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	975	97	80-120	

SAMPLE DUPLICATE: 1324015

Parameter	Units	60161962001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	557	573	3	10	

SAMPLE DUPLICATE: 1324016

Parameter	Units	60161839001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	615	636	3	10	

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)
Pace Project No.: 60161839

QC Batch:	WET/45839	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60161839001		

METHOD BLANK: 1323386
Associated Lab Samples: 60161839001

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	01/28/14 16:08	

SAMPLE DUPLICATE: 1323387

Parameter	Units	60161715002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5.0	5.0	0	10	

SAMPLE DUPLICATE: 1323388

Parameter	Units	60161861002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

QC Batch: WET/45811

Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B

Analysis Description: 4500H+B pH

Associated Lab Samples: 60161839001

SAMPLE DUPLICATE: 1322654

Parameter	Units	60161611002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	1	5	H6

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QUALITY CONTROL DATA

Project: NATIONAL (MONTHLY)
Pace Project No.: 60161839

QC Batch:	WETA/27971	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	60161839001		

METHOD BLANK: 1323269 Matrix: Water
Associated Lab Samples: 60161839001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	01/29/14 12:14	

LABORATORY CONTROL SAMPLE: 1323270

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1323271 1323272

Parameter	Units	60161509001		MS		MSD		MS		MSD		% Rec Limits	Max		Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	RPD	RPD				
Sulfate	mg/L	3570	2500	2500	5990	5980	97	96	80-120	0	15				

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: NATIONAL (MONTHLY)

Pace Project No.: 60161839

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NATIONAL (MONTHLY)
Pace Project No.: 60161839

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60161839001	NAT EAST	EPA 200.7	MPRP/26007	EPA 200.7	ICP/19908
60161839001	NAT EAST	EPA 200.7	MPRP/26023	EPA 200.7	ICP/19907
60161839001	NAT EAST	SM 2540C	WET/45867		
60161839001	NAT EAST	SM 2540D	WET/45839		
60161839001	NAT EAST	SM 2540F	WET/45793		
60161839001	NAT EAST	SM 4500-H+B	WET/45811		
60161839001	NAT EAST	EPA 300.0	WETA/27971		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60161839



60161839

797707743188

Client Name: Doe Run

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 5688 1124114 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other 242

Thermometer Used: T-239 T-194

Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 0.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/24/14

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>Set Sol</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10. <u>no volume for TOC</u>
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses	Matrix: <u>WT</u>	13.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____ Per Amy Sanders, TOC will be recollected. JLC 1/24/14

Project Manager Review: _____

Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A

Required Client Information:

Company: The Doe Run Company
Address: PO Box 500
Viburnum, MO 65566
Email To: asanders@doerun.com
Phone: 573-689-4535 Fax: 573-244-8179
Requested Due Date/TAT: 5 - 7 Days

Section B

Required Project Information:

Report To: Amy Sanders
Copy To:
Purchase Order No.:
Project Name: National (Monthly)
Project Number:

Section C

Invoice Information:

Attention: Amy Sanders
Company Name: The Doe Run Company
Address: PO Box 500, Viburnum, MO 65566
Pace Quote Reference:
Pace Project Manager: Jamie Church
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER
Site Location: MO
STATE:

ITEM #	Section D Required Client Information		Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WP AR OT TS		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
							COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	TSS/TDS	Sulfate		Settleable Solids	TOC	Cd, Pb, Zn (T&D)*	Hardness	pH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
200.7 Total Recoverable and Dissolved Metals (Lab Filter for dissolved) analyzed within 24 hours with flagged data	Larry Hopkins Doe Run	1/23/14		Andrew Noy / PASE	1/24/14	0845	0.6	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Larry Hopkins
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 1/23/14
Temp in °C
Received on Ice (Y/N)
Custody Sealed Cooler (Y/N)
Samples Intact (Y/N)



Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

February 07, 2014

Amy Sanders
The Doe Run Company
P. O. Box 500
Viburnum, MO 65566

RE: Project: National (Monthly)
Pace Project No.: 60162287

Dear Amy Sanders:

Enclosed are the analytical results for sample(s) received by the laboratory on January 31, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: National (Monthly)

Pace Project No.: 60162287

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-13-4

Utah Certification #: KS000212013-3

Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: National (Monthly)
Pace Project No.: 60162287

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60162287001	NAT EAST	Water	01/28/14 09:00	01/31/14 09:00

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SAMPLE ANALYTE COUNT

Project: National (Monthly)
Pace Project No.: 60162287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60162287001	NAT EAST	SM 5310C	DJR	1	PASI-K

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ANALYTICAL RESULTS

Project: National (Monthly)

Pace Project No.: 60162287

Sample: NAT EAST		Lab ID: 60162287001		Collected: 01/28/14 09:00		Received: 01/31/14 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.3	mg/L	1.0	0.50	1		02/06/14 20:52	7440-44-0	B

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: National (Monthly)
Pace Project No.: 60162287

QC Batch: WETA/28060 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 60162287001

METHOD BLANK: 1326083 Matrix: Water
Associated Lab Samples: 60162287001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	0.53J	1.0	02/06/14 20:26	

LABORATORY CONTROL SAMPLE: 1326084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.4	109	80-120	

MATRIX SPIKE SAMPLE: 1326085

Parameter	Units	60162287001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.3	5	6.2	97	80-120	

SAMPLE DUPLICATE: 1326086

Parameter	Units	60162171001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	40.2	40.4	0	25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: National (Monthly)
Pace Project No.: 60162287

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: National (Monthly)
Pace Project No.: 60162287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60162287001	NAT EAST	SM 5310C	WETA/28060		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60162287



60162287

Client Name: DRC

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 797756699679 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

Thermometer Used: T-230 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 0.6

Date and initials of person examining contents: 1/13/14

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4. <u>0900</u>
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. <u>Date</u>
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>Date on container is 1/28/14</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17.
Exceptions: VOA, coliform, <u>TOC</u> , O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: . Per Amy Sanders, collection date and time on COC is incorrect. Correct date is 1/28/14 at 9:00am.
JLC 2/4/14

Project Manager Review: mw for JLC

Date: 2/1/14

